

**MATERIALS FOR A FLORA OF TURKEY XXV:  
SOME NEW SPECIES OF UMBELLIFERAE**

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**ABSTRACT.** Four new species in the Umbelliferae are described from Turkey: *Chaerophyllum hakkiaricum* Hedge & Lamond; *Grammosciadium confertum* Hub.-Mor. & Lamond; *Laserpitium carduchorum* Hedge & Lamond; *Pimpinella isaurica* Matthews. *Echinophora trichophylla* Sm. is shown to be the correct name for the western Turkish plant previously known as *E. radicans* Boiss. and a new name *E. orientalis* Hedge & Lamond is proposed for the eastern Turkish species. A new subspecies of *Bunium microcarpum* is described.

***Chaerophyllum hakkiaricum* Hedge & Lamond, sp. nov.**

Affinis *C. macrospermum* (Spreng.) Fisch. & Mey. sed statura minore, foliis inferioribus minus divisis et segmentis foliolorum superiorum non filiformibus differt.

*Herba* perennis, puberula, caudice valido. *Caules* erecti, solidi, striati, teretes, 25–45 cm, aliquantum rigide ramosi. *Folia inferiora* ambitu ovata vel triangularia, petiolo inclusa 18(–25) × 7–15 cm, 2(–3) × pinnata, 4–6-juga, segmentis ultimis ovatis ± profunde lobatis, 6–13 × 3–8 mm; petiolus quam rhachide brevior. *Folia superiora* caulina similia, sensim decrescentia, brevius petiolata, minus dissecta. *Pedunculi* 4–10 cm. *Bracteae* 0–1, lineares, 4–7 mm. *Radix* 6–11, ± inaequales, 8–22 mm. *Bracteolae*, c. 6, glabrae vel pilis patulis tectae, anguste triangulares vel lineares, 1–3 mm. *Pedicelli* 8–15, ± capillacei, 1–4 mm. *Flores* pro maxime parte masculini; flos centralis umbellularum superarum hermaphroditus. *Lobi calycum* desunt. *Petala* alba vel interdum rosea, obovata vel obcordata, 1–1.5 mm. *Stylopodium* planum, discoideum, margine parum sinuatum. *Styli* 1.5 mm, divergentes. *Fructus* juvenalis linearis, apice truncatus, 12 × 1 mm, jugi et vittae ± indistincti. *Floret* Jul.–Aug.

**TURKEY.** C10 Hakkari: Cilo tepe, c. 3110 m, rocky slope, flowers white, 8 viii 1954, Davis & O. Polunin, D. 24077 (holo—E; iso—K, BM); Sat Da., 2700 m, Fedden & McColl 21; Sat Da., above Yüksekova, 2700 m, Duncan & Tait 14.

Mature fruiting material of this interesting species is required. *C. hakkiaricum* is related to *C. macrospermum* (Spreng.) Fisch. & Mey. from E Anatolia, Caucasus, Iran & Lebanon, the only other species in this area which has 1-fruited upper umbellules. However, it clearly differs in the smaller stature, the less divided lower leaves and the ovate not filiform segments of the upper leaves.

***Grammosciadium confertum* Hub.-Mor. & Lamond, sp. nov.**

Species insignis radiis umbellae centralis confertis et mericarpiis asymmetricis.

*Herba* biennis, omnino glabra. *Radix* verticalis crassa caulem singulum sulcatum 12–25 cm emittens. *Folia basalia* in statu fructifero delapsa. *Folia*

*caulina* petiolis inclusis, ad  $8 \times 1.5$  cm, erecti; lamina 1(–2)  $\times$  pinnata, c 6–8-juga, ambitu lineari-ovata segmentis multo dissectis; laciniae confertae, lineares vel filiformes mucronatae, 2–4 mm; petiolus quam lamina brevior, late alatus, stipulatus. *Pedunculus* umbellae centralis deficiens; pedunculi umbellarum lateralium 4–6 cm. *Umbella* centralis solum fertilis. *Bractee*  $\pm$  foliiformes vel lineari-setaceae. *Radii* 4–8, valde inaequales  $\pm$  0.8 cm, radii umbellae centralis confertae, incrassatae. *Bracteolae* c 5,  $\pm$  lineari-setaceae, c 2–4 mm. *Pedicelli* 8–13,  $\pm$  aequales, 1–2 mm in fructu incrassati. *Flores* ignoti. *Lobi calycum* persistentia,  $\pm$  subulati, 0.5–1.5 mm. *Fructus* 8–13 in quoque umbellula, lineari-oblongi,  $\pm$  teretes, 7–10  $\times$  c 1.5 mm. *Mericarpii* non alati, usque ad fructus maturitatem cohaerentia, jugis secundariis 4, filiformibus; mericarpium externum jugis primariis 5 conspicuis; mericarpium interior jugis primariis 3 conspicuis et 2 inconspicuis provisus. *Vittae* dorsales 4, graciles, sub jugis secundariis dispositae; vittae commissurales 2. *Styli* divergentes, usque ad 0.5 mm. *Carpophorum* ad basim bifidum. TURKEY. B5 Kayseri: pass between Alayli Da. and Bey Da., Bakirdag to Saimbeyli, 1 km east of top of pass, 1920 m, wheatfield, 19 vi 1951, Huber-Morath 10909. (holo—herb. Hub.-Mor.). B6 Adana/Maraş: Saimbeyli (Hadjin) to Karakilise, B. Post 207!

Additional material with basal leaves and flowers is required to complete the description of this species and confirm its correct placing in *Grammosciadium*. In facies and in position and size of the vittae, it most resembles *G. pterocarpum* Boiss. but the fruits are unwinged. It is quite distinct in the genus on account of the  $\pm$  sessile central umbel and the dissimilar mericarps.

Thanks are due to Dr A. Huber-Morath, Basel, for kindly placing his important collections at our disposal and for co-authorship of this species.

***Laserpitium carduchorum* Hedge & Lamond, sp. nov.**

Affinis *L. hispido* M. Bieb. sed bracteis angustioribus, petalis fructibusque maioribus et jugis mericarpiorum omnino alatis differt.

*Herba* perennis,  $\pm$  villosa, erecta, superne ramosa, 60–80 cm. *Caudex* validus; collum residuis fibrosis petiolorum emortuorum tectum. *Caules* solidi, striati, praesertim ad nodos villosi. *Folia* inferna ambitu late ovata, sparsim villosa, 25–30  $\times$  15–25 cm, petiolo incluso: petiolus quam rhachide aequans vel brevior, basi late alatus; lamina 3–4  $\times$  pinnata, 5-juga, segmentis ultimis ovatis vel rhombicis,  $\pm$  profunde lobatis vel serratis, 8–18  $\times$  5–12 mm. *Folia supra* foliis inferioribus similia, decrescentia, basi in vaginam villosam semi-amplexicaulem reducta. *Pedunculus* umbellae centralis validus, c 12 cm, pedunculi umbellarum lateralium tenuiores, 12–19 cm. *Umbellae*  $\pm$  villosae. *Bractee* 8–10, 2–3 cm, lineares, integrae vel lobis 2–3 lanceolatis 1–3 mm latis. *Radii* 17–20,  $\pm$  aequales, validi, sulcati, 3–5 cm, maturitate basi parum accretis. *Bracteolae* c 10, lineari-lanceolatae, 1–1.5 cm. *Pedicelli* 12–25,  $\pm$  aequales, 6–9 mm. *Dentes calycum* anguste triangulares persistentes, c 1.5 mm. *Flores* hermaphroditi vel masculini. *Petala* 3–3.5 mm, alba, in sicco lutea, obovata vel obcordata, apice inflexa. *Fructus* in quoque umbellula c 12–20, late oblongi, apice  $\pm$  retusus, basi  $\pm$  cordatus, 10–12  $\times$  7–8 mm. *Styli* 5–7 mm. *Mericarpii* parum a dorso compressi; juga dorsalia primaria et secundaria anguste alata; juga secundaria lateralia alis

papyraceis 2-4 mm latis; alae omnino  $\pm$  erosae. *Vittae* latae, vittis vallicularibus 4 sub jugis secundariis dispositis, vittis commissuralibus 2. *Stylopodium* inconspicuum,  $\pm$  conicum. *Carpophorum* ad basim bifidum. *Floret* Jul.-Aug.; fr. Aug.

TURKEY. B9 Bitlis: d. Kotum, Karz Da., above Kamer, 2200 m, *D.* 24567! Bitlis/Van: 10 km SE Pelli, 2560 m, *D.* 22551. C9 Hakkari: Koçanis, 2560 m, perennial?, flowers white, 3 viii 1954, *Davis & O. Polunin*, *D.* 24307b (holo—E; iso—K).

The new species is most closely allied to *L. hispidum* M. Bieb. from N & NE Turkey, S Russia (Crimea) and Caucasia but differs in the narrower  $\pm$  linear bracts, larger petals and fruits, longer styles and in all ridges of the mericarp being winged.

***Pimpinella isaurica* Matthews, sp. nov.**

Affinis *P. tragium* Vill. sed ubique indumento cano-tomentello, panícula multi-umbellata ramis patentibus umbellis breviter pedunculatis praeditis, petalis dorsaliter in toto hirtellis differt.

*Herba* perennis, basi suffruticosa, caudice basibus petiolorum emarcidorum oblecto. *Caules* c. 40 cm alti, dense cano-tomentelli. *Folia basalia* (cum petiolis longis) 8-20 cm longa, pinnata, ambitu late ovato-oblonga, foliolis (3-5) petiolulatis orbiculatis usque late cuneatis,  $\pm$  coriaceis, saepe fere ad medium lobatis, semper inciso-dentatis, 1-3.5 cm longis, sparse tomentellis. *Folia caulina* diminuentia, mediana trisecta foliolis cuneatis, summa ad vaginas lanceolatas reducta. *Inflorescentia* paniculata multi-umbellata, ramis lateralibus patentibus breviter paniculatis. *Umbellae* omniae breviter pedunculatae (pendunculis 1-5 cm), radiis 4-6, inaequalibus, hirtellis, 0.7-1.6 cm longis. *Bracteae* et bracteolae nullae. *Umbellulae* (8-10)-15-florae; pedicellae 1.3-2.5 mm. *Petala* alba, in tota pagina dorsali dense hirtella. *Fructus* (juvenilis) c. 2 mm longus, ovoideus, dense hirtellus; stylopodium hemisphaericum; styli 1.3-1.7 mm longi.

TURKEY. C4 Konya: Ermenek at Meydan Kebeni çesmesi, 1400 m, dry vertical and overhanging cliffs, 13 viii 1949, *Davis* 16148 (holo—E; iso—K). C5 Içel: nr. Gözne, NW of Mersin, 1200-1300 m, *Eig & M. Zohary* 12821.

*P. isaurica* is distinguished from the variable *P. tragium* by its denser indumentum, the form of its richly branched panicle (the numerous umbels all shortly pedunculate and borne on widely spreading lateral branches), and the dorsal surface of the petals densely hairy throughout. The type specimen has leaves of a distinct greyish colour, which is not a result of its slightly denser indumentum.

***Echinophora* L.**

Of the six members of the genus *Echinophora* known from Turkey, two are closely allied species distinct in having basal leaves with long filiform ultimate segments. One is endemic to west and south-west Anatolia, the other is found in eastern Turkey, north-west Persia, Soviet Azerbaijan and Soviet Armenia. The two species can be distinguished on the following characters.

<i>W Turkey plant</i>	<i>E Turkey plant</i>
Bracts 8-14, ciliate	Bracts 6-8, glabrous
Rays 10-25	Rays 7-12
Central umbellule of each umbel forming an obvious black sterile cone	Central umbellule of each umbel not forming a black cone
Petals often drying lemon-yellow	Petals remaining white

The history of the names applied to these species is as follows. J. E. Smith in 1809 (Rees, *Cyclopaedia* 12) described *Echinophora trichophylla* as:—"Leaflets thread-shaped, elongated, undivided, scarcely spinous. Native of the Levant, preserved in the herbarium of the younger Linnaeus. *Herb* smooth. Leaves 2 or 3  $\times$  ternate; leaflets undivided, very long and slender so as to be almost capillary, slightly channelled above, their points acute but not spinous. *Umbels* the size of the first species [*E. spinosa* L.] on long stalks, each with a dark purplish convex tumour in the centre; partial ones when in seed globose, muricated. *Petals* whitish. The plant abounds with gum".

After J. E. Smith, one of the next authors to use the name *E. trichophylla* was De Candolle (*Prodr.* 4: 235, 1830) who applied it to the E Turkish species. Subsequent authors followed De Candolle's application of the name and only Ledebour (*Fl. Ross.* 2: 355, 1844), although he called the eastern plant *E. trichophylla*, queried the application of the name by drawing attention to the fact that although the plant he was dealing with had 2  $\times$  pinatisect leaves the description by J. E. Smith clearly stated 2-3  $\times$  ternatisect.

Turning now to the name given to the western plant, Boissier (*Ann. Sci. Nat. ser* 3, 2: 92, 1844) described the new species *E. radians*, the name by which it has subsequently been known.

Recent examination of the type of *E. trichophylla* (in the J. E. Smith herbarium at the Linnean Society, London) showed, although there is no indication of its exact provenance, that it is undoubtedly the western plant and *not* that from eastern Turkey, the Trans-Caucasus and NW Persia. A new name is therefore necessary for the eastern plant and the nomenclature of the two species is as follows:—

***E. trichophylla*** Smith in Rees, *Cycl.* 12 (1809); Spreng. in Schultes, *Syst. Veg.* 6: 338 (1820).

Syn.: *E. radians* Boiss. in *Ann. Sci. Nat. ser* 3, 2: 92 (1844).

Type. The Levant ["ex Oriente" in herb. *Linn. f.*!].

Distribution. West and south-west Anatolia.

***E. orientalis*** Hedge & Lamond, *sp. nov.*

Syn.: *E. trichophylla* *auct.* non Sm.: DC., *Prodr.* 4: 235 (1830); Ledeb.,

*Fl. Ross.* 2: 355 (1844); Boiss., *Fl. Or.* 2: 948 (1872); Grossh., *Fl.*

*Kavkaza* ed. 1, 3: 123 (1932), ed. 2, 7: 22 (1967); Parsa, *Flore de*

*l'Iran* 2: 779 (1948); Schischkin in Komarov, *Fl. URSS* 16: 89 (1950);

Karyagin, *Flora of Azerbaijan* 6: 371 (1955).

Type: [Turkey]: m. Ararat, Szowits 564b (holo—G—DC photo!).

Distribution. E Turkey, Persian and Soviet Azerbaijan, Soviet Armenia.

No latin description of this species is given because an adequate one is to be found in the De Candolle reference cited above.

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**Bunium microcarpum** (Boiss.) Freyn subsp. **longiradiatum** Hedge & Lamond, **subsp. nov.**

A typo radiis fructiferis longioribus divaricatis 4-5.5 cm. longis, laciniis foliorum caulinarum minoribus c. 5 mm. differt

TURKEY. C9 Mardin: Cudi da. above Hessana, 1200-1400 m, 11 v 1966, Davis 42840 (holo—E).

Clearly different from the other subspecies in the features given above. Only known from one gathering, it may deserve specific status but additional material is needed.